



**ENGINEERING OPERATIONS COMMITTEE
MEETING MINUTES
AUGUST 5, 1999 - 9:00 A.M.
EXECUTIVE CONFERENCE ROOM**

Present: C. T. Maki G. D. Taylor J. D. Culp
C. Roberts P. F. Miller J. D. O'Doherty
T. Fort D. Hornbeck (T. E. Davies)

Guests: C. Bleech L. Galehouse

OLD BUSINESS

1. Approval of the Minutes of the July 1, 1999, Meeting - C. T. Maki

Minutes of the July 1, 1999, meeting were approved as written.

2. Michigan State University Report, Grand River Avenue (M-43) Pedestrian Study, RCE Contract 94-1521-Z12 - J. D. O'Doherty

MSU completed a final report on the subject research project. The research cost was \$45,000 and the report was finalized three months beyond the original contract date due to an approved contract extension. The extension was granted to allow validation of pedestrian crossing times and to examine the effects of turning vehicles on pedestrian crossing times.

ACTION: Final report accepted for publication.

NEW BUSINESS

1. Partnership in Excellence Award for Organizing and Conducting the Workshop on Pavement Maintenance - T. Fort

The FHWA presented the Partnership in Excellence Award, which included an engraved paperweight and letter of commendation to Larry Galehouse, Maintenance Division, for his participation in organizing and conducting a workshop on Preventative Maintenance held in Kansas City.

2. Operating Instructions for Scoping of Road and Bridge Projects to Meet the Current AASHTO Vertical Clearance Standards - P. F. Miller/M. Van Port Fleet

This item was withdrawn from the agenda.

3. 3M Company Stamark 1200 Liquid Pavement Marking - J. D. O'Doherty/M. Bott

The 3M Company is proposing that MDOT place their new Stamark 1200 Liquid Pavement System on some pilot projects (Bay, Metro and University Regions). Three year performance life is expected according to 3M. They want to place the markings with their equipment, with MDOT paying for materials and traffic control.

Product: Three levels of markings are being marketed by 3M. Brian Zimmerman recommends pilot testing all three levels. (Level two marking system is recommended by 3M for snow plowing applications.) A new technology has been developed using ceramic beads and a polyurea binder. The product has a two minute cure (dry) time, which minimizes traffic control and eliminates lane closures.

ACTION:

1. Pilot projects are approved for next year's marking program.
2. A small test application is approved for this year (Bay Region on I-675, and University Region on Lansing Road at the Secondary Complex if the details can be worked out with the region and 3M).
3. Brian Zimmerman (Traffic and Safety) will work with Dave Long (Construction and Technology) on an evaluation plan.

4. **Pavement Selection: Old M-14 Reconstruction, C.S. 82101/45707 - S. Bower/C. Bleech**

A Life Cycle Cost Analysis was performed on two pavement rehabilitation alternates, including a flexible bituminous pavement (Alternate 1) and a jointed plain concrete pavement (Alternate 2).

The Pavement Selection Review Committee reviewed the results and Alternate 1 having the lowest Equivalent Uniform Annual Cost was recommended for final approval by EOC.

Alternate 1 is approved. The pavement design and cost analysis are as follows:

38 mm	Bituminous Mix 5E3, Top Course
51 mm	Bituminous Mix 4E3, Leveling Course
94 mm	Bituminous Mix 3E3, Base Course
160 mm	Aggregate Base
460 mm	Sand Subbase
150 mm	Subbase Underdrains

Present Value Initial Construction Costs	\$553,221/Kilometer
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Present Value Initial User Costs	\$57,625/Kilometer
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Present Value Maintenance Costs	\$81,530/Kilometer
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Equivalent Uniform Annual Cost	\$31,754/Kilometer
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NOTE: This project is proposed as the pilot project for the performance warranty being developed with MAPA.

5. **Pavement Selection: M-37 at M-6 New Construction, C.S. 41031/34693 - S. Bower/C. Bleech**

A Life Cycle Cost Analysis was performed on two pavement rehabilitation alternates, including a flexible bituminous pavement (Alternate 1) and a jointed plain concrete pavement (Alternate 2).

The Pavement Selection Review Committee reviewed the results and Alternate 1 having the lowest Equivalent Uniform Annual Cost was recommended for final approval by EOC.

Alternate 1 is approved. The pavement design and cost analysis are as follows:

38 mm Bituminous Mix 5E10, Top Course (Mainline and Inside Shoulder)
51 mm Bituminous Mix 4E10, Leveling Course (Mainline and Inside Shoulder)
105 mm Bituminous Mix 3E10, Base Course (Mainline and Inside Shoulder)
194 mm Bituminous Mix 4C, 3C, & 2C (Outside Shoulder)
160 mm Aggregate Base (21AA-Mod)
460 mm Sand Subbase
100 mm Subbase Underdrains

Present Value Initial Construction Costs \$266,913/Kilometer

Present Value Initial User Costs \$0/Kilometer

Present Value Maintenance Costs \$36,576/Kilometer

Equivalent Uniform Annual Cost \$13,919/Kilometer

(Signed Copy on File at C&T/Secondary)
Jon W. Reincke, Secretary
Engineering Operations Committee

JWR:JDC:kat

cc: EOC Members

Region Engineers

J. R. DeSana R. J. Risser, Jr. (MCPA)

R. J. Lippert, Jr. A. C. Milo (MRBA)

D. L. Smiley J. Becsey (MAPA)

M. Nystrom (AUC) D. Hollingsworth (MCA)

M. Newman (MAA) J. Steele (FHWA)

J. Murner (MRPA)

J. Ruszkowski

C. Libiran

G. J. Bukoski

K. Rothwell

T. L. Nelson

R. D. Till

M. Frierson

C. W. Whiteside

M. P. Krause